Western blot with p95 antiserum. (B) Immunoprecipitations were carried out on crude extracts from JS cells (NBS) and control cell line TK6 hMre11 antiserum (hMre11 IP) or preimmune serum (PI). The resulting precipitates were subjected to Western blotting analysis with hMre11, hRad50, and p95 antisera. The positions of the three proteins are indicated on the left.

Figure 11. Ionizing Radiation Induced Foci (IRIF) formed by p95 and hMre11 in 37Lu and NBS cells. Irradiated 37Lu primary fibroblasts were harvested at 8 hours post-irradiation, fixed, and probed with p95 antiserum and hMre11 mAb 8F3 (A→D). Images were captured of the same nuclei under FITC (11A, p95), Texas Red (11B, hMre11), DAPI (11C) filters and merged (11D) in Adobe Photoshop. Normal IMR90 fibroblasts (E-N) and W1799 NBS fibroblasts (M-X) were assessed for the ability to form IRIF. Unirradiated (E-H, K-L, O-R, U, V) or irradiated (I-J, M-N, S-T, W-X) cells were harvested at 8 hours post-treatment, fixed, and stained with DAPI and three different antibodies. Panels F, O are p95 preimmune serum; F, L are the corresponding DAPI stains. Panels G, I, Q, S, are stained with p95 antiserum; H, J, R, T are the corresponding DAPI stains. Panels K, M,U, W are stained with hMre11 antiserum; L, N, V, X are the corresponding DAPI stains.

Figure 12. Codons for specified amino acids.

Figure 13. Exemplary and preferred amino acid substitutions.

Figure 14. cDNA sequence of p95. SEQ ID NO: 2

Figure 15. Amino acid sequence of p95.

Ins A3

8-22-05

Detailed Description of the Invention

Definitions

As used herein, the terms "isolated and/or purified" refer to *in vitro* preparation, isolation and/or purification of a nucleic acid molecule or polypeptide of the invention, so that it is not associated with *in vivo* substances.

As used herein, a "DNA repair polypeptide or protein having a molecular weight of 95000 Da" or "p95" refers to a polypeptide which is part of the